



Jet Performance Plot Planning

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Jet Structure Topical Group

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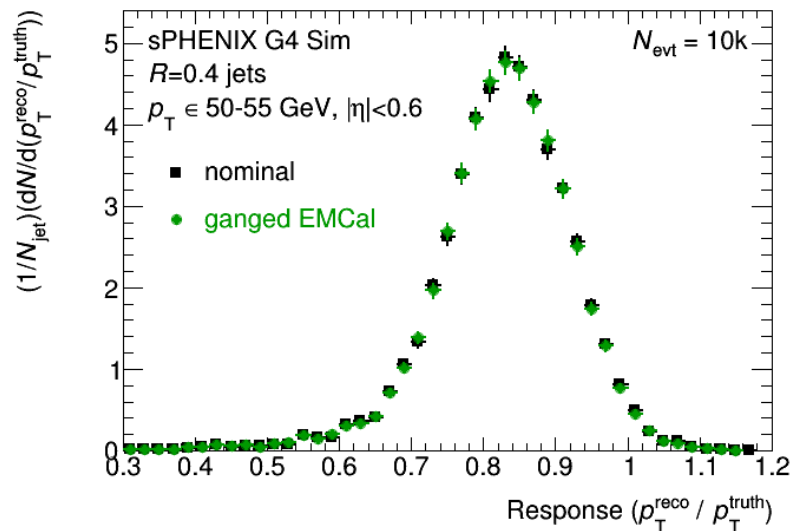
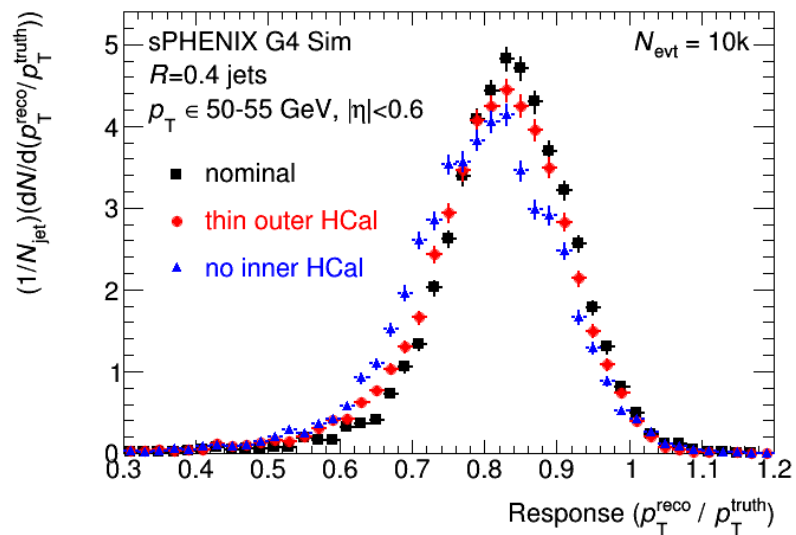


Task at Hand

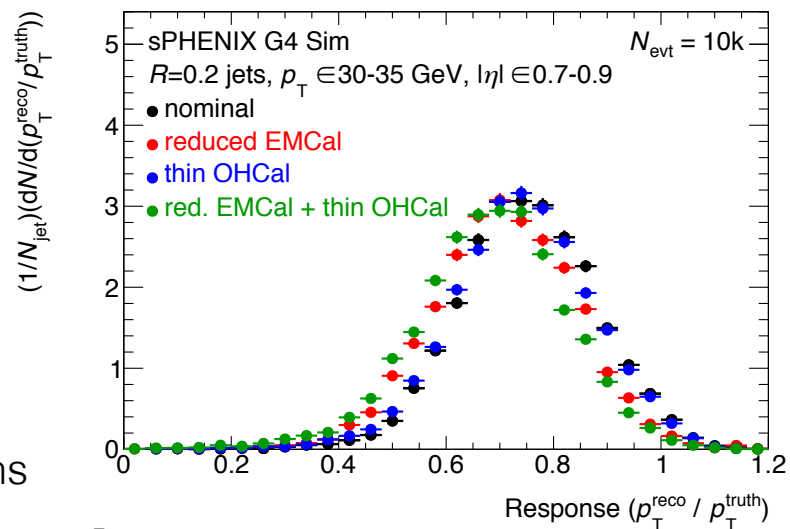
- Presentation by Dennis on tasks needed
- Systematic studies of jet response
 - ➔ status: MIE showed some selected results
 - ➔ example task(s): test that UE subtraction still works, response/JES/JER differentially in jet p_T / η / R / centrality
 - ➔ interested people: n/a
- I think this is an important task and volunteered

From the ALD Request

1. Jet response studies



- Examining effect of different calo stack configurations
- ➔ Upper left: HCal configurations for large- R , high- p_T jets
- ➔ Upper right: ganged EMCal
- ➔ Lower right: HCal x EMCal configurations for small- R , large- η , low- p_T jets



MIE Plots: pp

- MIE jet performance in pp
- PYTHIA+GEANT4

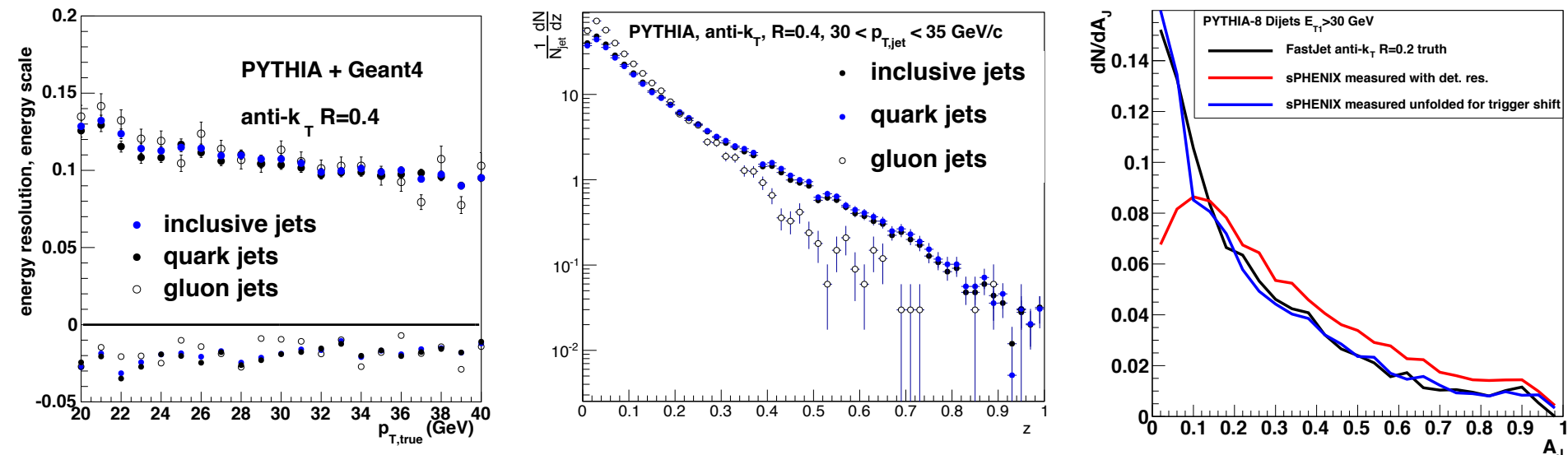
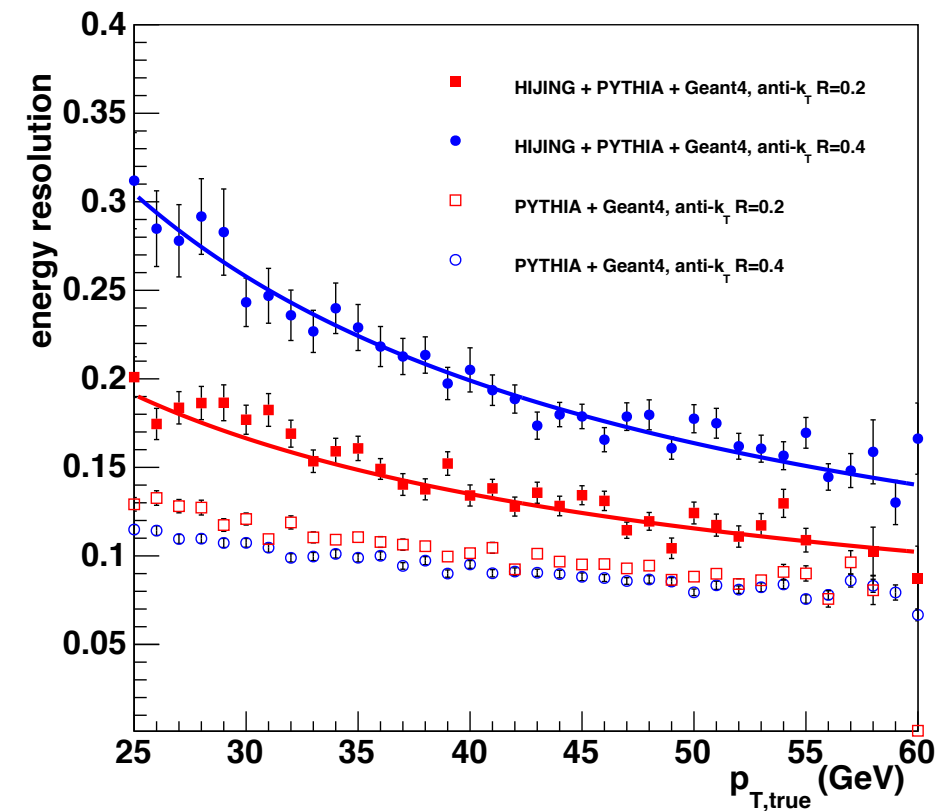


Figure 4.4: (left) The GEANT4 calculated energy resolution of single jets in $p+p$ collisions separated into quark and gluon jets. (right) The PYTHIA calculated fragmentation function of quark and gluon jets separately.

MIE Plots: AuAu



- Performance in Au-Au
 - Background subtraction
- Add Quark/Gluon
- HIJING+PYTHIA+GEANT4

MC available

- What to use?
- From May:
 - /sphenix/sim/sim01/production/aldcharge/sHijing/
- More from July:
 - /sphenix/sim/sim01/production/2016-07*

Additional Questions/Plots

- Any other ideas?

Framework

- Using Jet Evaluator
- 2015 Tutorial from M. McCumber:
 - <https://indico.bnl.gov/getFile.py/access?contribId=13&sessionId=2&resId=0&materialId=slides&confId=1237>
- Macros generate Jet Energy Resolution etc.
- Was this used for de-scoping plots too?

A Place for Plots?

- Wiki for jet structure group?
 - Evolution of plots MIE->DeScope->Latest & Greatest
 - How to make new plots for the next high pressure review

Goals

- Reproduce the plots discussed today
- Use framework/update framework for any new needs we have
- Make plots easily available and documented